UNIVERSITY OF MISSOURI-KANSAS CITY

CHEMICAL MANAGEMENT PLAN

Revised
August, 1996

PRESENTED BY: **WILLIAM J. FIELDS, JR.**
DIRECTOR of CBARS, UMKC

CHEMICAL MANAGEMENT PLAN

This CMPlan was developed to ensure the safe and proper use of Haz Chems and to comply with applicable governmental regulations addressing the use and disposal of Haz Chems. Elements of the CMPlan include:

a. a procedure for identifying all potential or actual Haz Chems or Wastes;

b. a procedure for periodic re-examination of those Haz Chems or Wastes...in (a.) above as well as a systematic method for identification and evaluation of new potential or actual Haz Chems or Wastes;

c. procedures for evaluating Haz Chems or Wastes to determine if they can be recycled, and for identifying, marking and tracking Haz Chems or Wastes;

d. a procedure for identification and training of those parties directly responsible for ensuring that (a.), (b.) and (c.) are implemented;

e. a procedure for monitoring, recording and reporting compliance with the CMPlan;

f. a procedure by which information generated by the CMPlan is provided to the parties performing waste analyses.

Table of Contents

I. Definitions

Hazardous Materials Manager - person...responsible for maintaining an inventory, safe storage and proper handling of chemicals in the Central Storage Areas.

Hazardous Materials Supervisor - person...responsible for maintaining an inventory, safe storage and proper handling of chemicals and wastes in laboratories.

Authorized User - person...responsible...authorized...to accept chemicals...for use.

-Chemical Management and Treatment Protocols - protocols for treatment and disposal of specific chemicals...based on accepted chemical practices.

Empty Containers - empty containers, as defined in 40 CFR 261.7, of Haz Chems...managed in two ways... RCRA P Listed or H Coded containers...disposed by CBARS. Other Haz Chem containers...triple rinsed into waste container...container reused or disposed. Non-Haz Chem containers...triple rinsed into drain...container reused or disposed.

Hazardous Waste - chemicals that meet the RCRA definition for Haz Wastes (40 CFR 261.30 (b), Ignitable, Corrosive, Reactive, Toxicity Characteristic, Acute Hazardous and Toxic) and are designated as wastes.

Inventory/Labeling System and Inventory Life Tag - written inventory and label documentation of the identity of a Haz Chem.

Use Container - a container, e.g., flask or plastic squeeze bottle, in which Haz or Non-Haz Chems are contained and left unattended in the laboratory...must have the name of the chemical affixed to them...do not require Life Tags. Example: Plastic squeeze bottle containing distilled water left unattended on a bench top, must be labeled "Distilled Water."

Waste Pickup Form - information provided to CBARS by the HazMat Manager or Supervisor to accompany Haz Chems, Haz Wastes, and empty containers that have been designated as wastes.

II. Identification of Hazardous Chemicals

Identification and Inventory Labeling

Identification of Haz Chems...made at the time of purchase...entered into the Inventory/Labeling System. RCRA P Listed containers of Haz Chems must be marked to be disposed of as Haz Waste. Chemicals excluded from the Inventory/Labeling System form an Exempted Product Categories List.

The following information about each Haz Chem will be entered into the Inventory/Labeling System:

chemical identity	**MSDS**
quantity of chemical	**toxicity**
CAS and/or RGN numbers	**shelf life.**

III. Hazardous Chemicals Management

Laboratory Management Responsibility - HazMat Supervisor...responsible for the safe storage, proper use, and inventory of Haz Chems transferred from a Central Storage Area to a laboratory...and for properly containerized and labeled Haz Wastes.

Central Storage Areas - Locations where Haz Chems purchased or received under University purchasing authority are delivered to for inventory and transfer to a laboratory...Analytical samples or formulations received for research purposes are not required to be inventoried.

Containerized Hazardous Wastes - Haz Chems, properly containerized, identified and designated as waste on the Waste Pick Up Form and collected by CBARS.

Damaged Containers - containers whose integrity has been compromised. If Haz Chem is usable...transfer to properly labeled container. If not usable, dispose.

V. Personnel Training

Training provided by CBARS staff to newly assigned persons within 30 days of anticipated use of Haz Chems. Training will include:

1) **an overview of the regulatory background;**

2) **the definitions of Haz Chems to be labeled in the Inventory/Labeling System;**

3) **an overview of Haz Chem and Waste management;**

4) **instruction in the use of the documentation forms;**

5) **a review of University policy (CMPlan) on Haz Chems management;**

6) **empty containers;**

7) **regulatory changes.**

VI. Monitoring and Compliance Reporting

CBARS CMPlan Audits

CBARS responsible for auditing each laboratory annually and for monitoring the CMPlan...Laboratories with deficiencies...subject to reinspection within thirty days...Reports of the audit findings including deficiencies noted and corrective actions forwarded to appropriate, persons...no response could result in closure of the laboratory or other specific action...Director of CBARS has authority to terminate any procedure involving the use of Haz Chems if deemed a physical or health threat to personnel, facilities or the environment.

HAZARDOUS WASTE PICK UP FORM

Signature of person authorizing charges and pick up:

Example: You have five glass bottles of benzene, each containing 4 liters. You have determined no future need for the material and add them to a Waste Pick Up Form on 1/1/96. Note: If you have the same type of waste but a different volume or weight in each container, then list each container separately.

Waste Name(s) If mixed, list all known and the concentration.	Volume (L) or Weight (Kg)	Container Type	# of	Characteristic To	Re	Ig			Date Declared Waste
EX Benzene	20L	GB	5	X		X			1/1/96
1									
2									
3									
4									
5									

HAZARDOUS WASTE PICK UP FORM INSTRUCTIONS

GENERAL GUIDELINES:

2. **Each waste container must be labeled: a) the accumulation start date, b) the name of chemical waste or, if a mixture, the major hazardous components, c) the percent by volume or the concentration of the major hazardous component and d) any known hazards associated with the waste.**

TO HAVE WASTE REMOVED FROM LAB:.

1. **Complete the Hazardous Waste Pick Up Form and send to CBARS, 5346 Charlotte. CBARS staff will prepare a Haz Chem Waste Tag for you to affix to your wastes prior to pickup.**

AT TIME OF PICKUP:

1. **Please have a knowledgeable user present during pickup to verify the contents of the waste.**

INSTRUCTIONS FOR COMPLETING HAZARDOUS WASTE PICK UP FORM

-TOP SECTION:

8. Actual location from which the waste is to be picked up.

BOTTOM SECTION:

3. Container Type. Describe the type of container using the following abbreviations:

GB - Glass Bottle	**PB - Plastic Bottle**
MC - Metal Can (<6 gal)	**PBG - Plastic Bag**

6. Date Declared Waste. This should be the accumulation start date or the date the material was actually declared waste and placed on the Waste Pick Up Form.

H A Z A R D O U S W A S T E
Federal Law Prohibits Improper Disposal!

If found, contact: UMKC Police, 2354515
UMKC Office of CBARS, 2354642
U.S. Environmental Protection Agency (EPA)

6/96 GENERATOR FACILITY INFORMATION

University of Missouri-Kansas City
Treatment, Storage and Disposal Facility
5010 Troost Ave., Kansas City, MO 64110

EPA ID# MOD-073-133-647

MODNR GEN ID# 001048 FACILITY ID# HHl105

STANDARD RECOMMENDATIONS FOR CORRECTING COMMON DISCREPANCIES

LT - NO LIFE TAG: Any Haz Chem that is used or stored outside a Central Storage Area must be inventoried and labeled with a Life Tag. The only exceptions are those Haz Chems in use containers, e.g., test tubes or flasks.

RECOMMENDATION: Determine if the chemical is on the California List, the RCRA P or U Lists, H Coded or could generate a characteristic waste. If the chemical is not specifically excluded on the Exempted Products Categories List contact CBARS for a resolve.

IS - INCOMPATIBLE STORAGE: All chemicals must be stored according to RGN compatibility.

RECOMMENDATION: Consult the Hazardous Waste Compatibility and Incompatibility Lists to assist you in making determination concerning compatible storage of chemicals. If you have any questions, call CBARS.

APPENDIX B

Characteristics' of Hazardous Chemicals:
Ignitability, Corrosivity, Reactivity, and Toxicity Characteristic
California List
RCRA U List
RCRA P List
H Coded Chemicals
Exempted Product Categories List

Exempted Product Categories List

The following are exempted from the Inventory/Labeling System...based upon normal use ...does not preclude the product from being Haz Waste...

1. **Household Cleaning Compounds (single container volume of 5 gallons or less), purchased at a grocery store, meet the OSHA definition for commercial product, and used in the manner specified on the labeling. Examples: Comet, Windex, Clorox, etc. "Industrial Use" products and hazardous solvents are not acceptable for this list.**

8. **Biological detergents, non-reactive detergents commonly used in biochemical research, e.g.** bile **salts, alkylammonium salts, polyoxyethylene ethers (Triton). For examples, see "Biological detergents" in the Sigma Chemical Co. catalog. Products that would be classified D001 wastes are not acceptable for this list.**

APPROVED TREATMENT AND PROTOCOLS FOR HAZ AND NON-HAZ CHEMS

2. **Magnesium Sulfate or Zinc Sulfate residues: Dissolve in water (not to exceed one L total volume) and neutralize with NaOH. Filter insolubles, dry and package for transfer to landfill. Discard filtrate into the drain with excess running water.**

3. **Acid Solutions: HCl, HNO_3, H_2SO_4, H_3PO_4 and Acetic (Vinegar). Neutralize with $NaHCO_3$ or NaOH, total volume of solution not to exceed one L. Discard neutralized solution into the drain with excess running water.**

10. **Alcohols: No Treatment Required. Solutions of water soluble alcohols (<24% by volume) may be discarded into the drain with excess running water. Solutions of water soluble alcohols (>24% by volume) must be disposed into proper liquid Haz Waste containers for disposal by CBARS.**

CBARS AUDIT CHECK LIST

1. DOCUMENTATION

E. AUTHORIZED USERS LIST POSTED

2. ORIGINAL CONTAINERS

B. CONTAINERS IN GOOD CONDITION

3. WORKING CONTAINERS

A. LABELED AS TO CONTENTS

4. WASTE CONTAINERS

C. LABELED AS TO CONTENTS

5. MISCELLANEOUS

B. REFRIGERATORS DO NOT CONTAIN FOOD